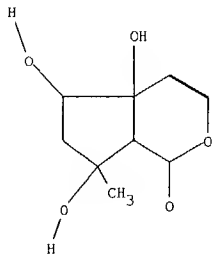
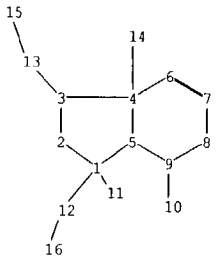
ntitled)




ain nodes :
10 11 12 13 14 15 16
g nodes :
1 2 3 4 5 6 7 8 9
in bonds :
1-11 1-12 3-13 4-14 9-10 12-16 13-15
g bonds :
1-2 1-5 2-3 3-4 4-5 4-6 5-9 6-7 7-8 8-9
ct/norm bonds :
1-2 1-5 1-12 2-3 3-4 3-13 4-5 4-6 4-14 5-9 6-7 7-8 8-9 9-10
ct bonds :
1-11 12-16 13-15

ch level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1623kxg

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

| | | |
|---|---|---|
| NEWS 1 | | Web Page URLs for STN Seminar Schedule - N. America |
| NEWS 2 | | "Ask CAS" for self-help around the clock |
| NEWS 3 | SEP 09 | CA/CAplus records now contain indexing from 1907 to the present |
| NEWS 4 | AUG 05 | New pricing for EUROPATFULL and PCTFULL effective August 1, 2003 |
| NEWS 5 | AUG 13 | Field Availability (/FA) field enhanced in BEILSTEIN |
| NEWS 6 | AUG 18 | Data available for download as a PDF in RDISCLOSURE |
| NEWS 7 | AUG 18 | Simultaneous left and right truncation added to PASCAL |
| NEWS 8 | AUG 18 | FROSTI and KOSMET enhanced with Simultaneous Left and Righ Truncation |
| NEWS 9 | AUG 18 | Simultaneous left and right truncation added to ANABSTR |
| NEWS 10 | SEP 22 | DIPPR file reloaded |
| NEWS 11 | DEC 08 | INPADOC: Legal Status data reloaded |
| NEWS 12 | SEP 29 | DISSABS now available on STN |
| NEWS 13 | OCT 10 | PCTFULL: Two new display fields added |
| NEWS 14 | OCT 21 | BIOSIS file reloaded and enhanced |
| NEWS 15 | OCT 28 | BIOSIS file segment of TOXCENTER reloaded and enhanced |
| NEWS 16 | NOV 24 | MSDS-CCOHS file reloaded |
| NEWS 17 | DEC 08 | CABA reloaded with left truncation |
| NEWS 18 | DEC 08 | IMS file names changed |
| NEWS 19 | DEC 09 | Experimental property data collected by CAS now available in REGISTRY |
| NEWS 20 | DEC 09 | STN Entry Date available for display in REGISTRY and CA/CAplus |
| NEWS 21 | DEC 17 | DGENE: Two new display fields added |
| NEWS 22 | DEC 18 | BIOTECHNO no longer updated |
| NEWS 23 | DEC 19 | CROPU no longer updated; subscriber discount no longer available |
| NEWS 24 | DEC 22 | Additional INPI reactions and pre-1907 documents added to CAS databases |
| NEWS 25 | DEC 22 | IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields |

| | |
|---|---|
| NEWS EXPRESS | NOVEMBER 14 CURRENT WINDOWS VERSION IS V6.01c, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003 |
| NEWS HOURS | STN Operating Hours Plus Help Desk Availability |
| NEWS INTER | General Internet Information |
| NEWS LOGIN | Welcome Banner and News Items |
| NEWS PHONE | Direct Dial and Telecommunication Network Access to STN |
| NEWS WWW | CAS World Wide Web Site (general information) |

Enter NEWS followed by the item number or name to see news on that specific topic.

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```
  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 10:53:49 ON 22 DEC 2003

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'REGISTRY' ENTERED AT 10:53:59 ON 22 DEC 2003
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provided by InfoChem.

STRUCTURE FILE UPDATES:   21 DEC 2003  HIGHEST RN 629597-20-2
DICTIONARY FILE UPDATES:  21 DEC 2003  HIGHEST RN 629597-20-2

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=>
Uploading 09995691-3.str

L1      STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1                STR
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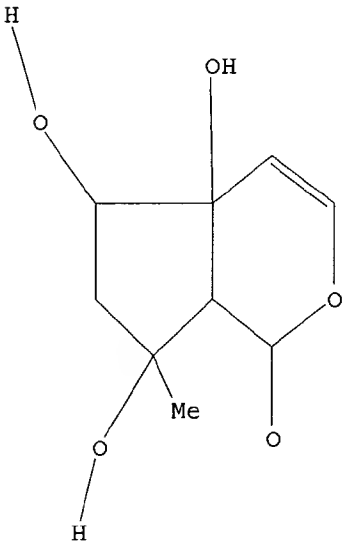



```
Structure attributes must be viewed using STN Express query preparation.
```

```
=> s l1 sss sam
SAMPLE SEARCH INITIATED 10:54:37 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     853 TO ITERATE

100.0% PROCESSED      853 ITERATIONS                                  2 ANSWERS
SEARCH TIME: 00.00.01

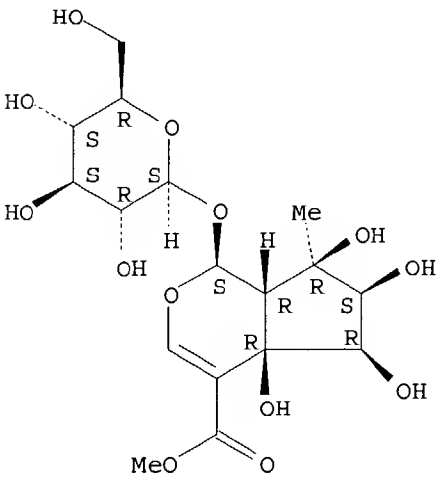
FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:        15308 TO    18812
PROJECTED ANSWERS:               2 TO      124

L2             2 SEA SSS SAM L1

=> d scan

L2    2 ANSWERS   REGISTRY  COPYRIGHT 2003 ACS on STN
IN    Cyclopenta[c]pyran-4-carboxylic acid, 1-(.beta.-D-glucopyranosyloxy)-
      1,4a,5,6,7,7a-hexahydro-4a,5,6,7-tetrahydroxy-7-methyl-, methyl ester,
      (1S,4aR,5R,6S,7R,7aR)- (9CI)
MF    C17 H26 O13

Absolute stereochemistry.  Rotation (-).
```

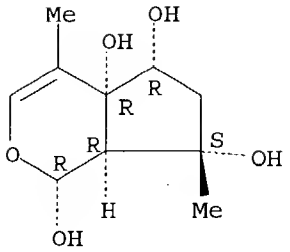



```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**


HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L2    2 ANSWERS   REGISTRY  COPYRIGHT 2003 ACS on STN
IN    Cyclopenta[c]pyran-1,4a,5,7(1H)-tetrol, 5,6,7,7a-tetrahydro-4,7-dimethyl-,
      [1R-(1.alpha.,4a.alpha.,5.alpha.,7.alpha.,7a.alpha.)]- (9CI)
MF    C10 H16 O5

Absolute stereochemistry.
```




**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

ALL ANSWERS HAVE BEEN SCANNED

=> s l1 sss full
FULL SEARCH INITIATED 10:55:07 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 17637 TO ITERATE

100.0% PROCESSED 17637 ITERATIONS 33 ANSWERS
SEARCH TIME: 00.00.02

L3 33 SEA SSS FUL L1

=> file caplus

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|---|---|---|
| FULL ESTIMATED COST | 148.55 | 148.76 |

FILE 'CAPLUS' ENTERED AT 10:55:20 ON 22 DEC 2003
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FILE COVERS 1907 - 22 Dec 2003 VOL 139 ISS 26
FILE LAST UPDATED: 21 Dec 2003 (20031221/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

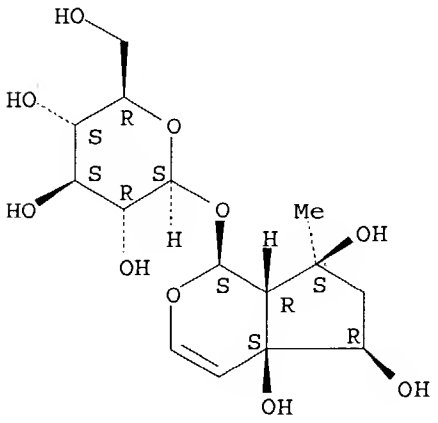
=> s l3 and (arthritis or osteoporosis or disc)
165 L3
31062 ARTHRITIS
2 ARTHRITISES
31062 ARTHRITIS
(ARTHRITIS OR ARTHRITISES)
12642 OSTEOPOROSIS
12163 DISC
2833 DISCS

```
          14639 DISC
                (DISC OR DISCS)
L4            4 L3 AND (ARTHRITIS OR OSTEOPOROSIS OR DISC)

=> dis l4 1-4 bib abs hitstr
```

L4 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:799804 CAPLUS
DN 138:103853
TI In vitro propagation and iridoid analysis of the medicinal species Harpagophytum procumbens and H. zeyheri
AU Levieille, G.; Wilson, G.
CS Department of Botany, University College Dublin, Dublin, Ire.
SO Plant Cell Reports (2002), 21(3), 220-225
CODEN: PCRPD8; ISSN: 0721-7714
PB Springer-Verlag
DT Journal
LA English
AB Exts. of the tubers of Harpagophytum procumbens DC (Devil's Claw) are used widely for the relief of **arthritis**, lumbago and muscular pain. The anti-inflammatory activity has been attributed to their iridoid components. A two-step protocol was established for the in vitro propagation of plants of Harpagophytum sp. by the regeneration of new plantlets from nodal cuttings and their acclimatization to ex vitro conditions. Single node cuttings were submitted to a root induction treatment with .beta.-indoleacetic acid (5 days at 2 mg l-1) followed by a transfer to a phytohormone-free medium to promote root elongation and support plantlet development. The new plantlets were weaned under autotrophic conditions and subsequently acclimatized in a glasshouse where they grew into fertile flowering plants that produced the characteristic Devil's Claw fruits as well as tuberised roots. Anal. of the tuber tissue of the micropropagated plants showed the presence of the iridoids harpagoside and harpagide at concns. comparable with those found in the wild plant material (1% dry wt.). The leaves were also found to contain these iridoids, and therefore could potentially provide an alternative and more sustainable source of therapeutically active compds. The application of in vitro methods for the propagation of Devil's Claw would contribute to the conservation of this species.
IT **6926-08-5**, Harpagide
RL: NPO (Natural product occurrence); BIOL (Biological study); OCCU (Occurrence)
(in vitro propagation and iridoid anal. of medicinal species Harpagophytum procumbens and H. zeyheri)
RN 6926-08-5 CAPLUS
CN .beta.-D-Glucopyranoside, (1S,4aS,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



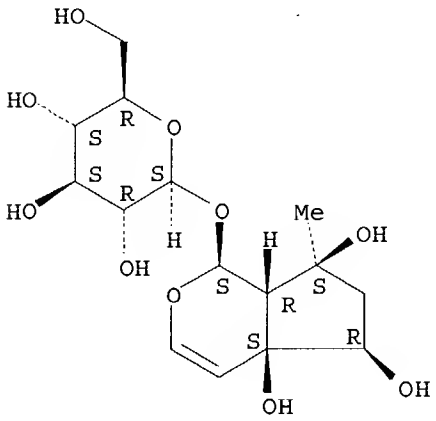
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:591953 CAPLUS
DN 137:159305
TI 2-O-(9Z,12Z-octadecadienoyl)-3-O-[.alpha.-D-galactopyranosyl-(1''-6')-O-.beta.-D-galactopyranosyl]glycerol and pharmaceutical formulations containing it
IN Shin, Jun Shik; Kim, Sang Tae; Hahn, Yong Nam
PA Japan
SO Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 2002220400 | A2 | 20020809 | JP 2001-365399 | 20011129 |
| | US 6531582 | B1 | 20030311 | US 2001-995617 | 20011129 |
| PRAI | KR 2000-71438 | A | 20001129 | | |

AB Pharmaceutical formulations for treatment of **osteoporosis**, **arthritis**, or intervertebral disk hernia, contain 2-O-(9Z,12Z-octadecadienoyl)-3-O-[.alpha.-D-galactopyranosyl-(1''-6')-O-.beta.-D-galactopyranosyl]glycerol (I) or its esters as active ingredients. I (420 mg) was purified from an EtOH ext. of 1848 g Cibotium barometz root powder. Administration of I at 75 .mu.g/mL p.o. for 2 wk prevented mouse paw edema induced by Zymosan A and Freund's adjuvant. Formulation examples of injections, tablets, capsules, and liqs. contg. I or I acetate are given.
IT **6926-08-5**, Harpagide
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmaceuticals contg. octadecadienoyl(galactopyranosylgalactopyranosyl)glycerol for treatment of **osteoporosis**, **arthritis**, and intervertebral disk hernia)
RN 6926-08-5 CAPLUS
CN .beta.-D-Glucopyranoside, (1S,4aS,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.




L4 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:533182 CAPLUS
DN 137:88448
TI Use of harpagide-related compounds for prevention and treatment of

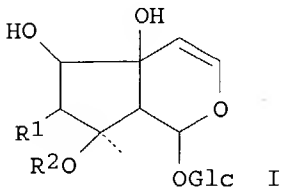
**osteoporosis**, **arthritis**, and intervertebral disk hernia, pharmaceutical compositions, and preparation of the compounds

IN Shin, Jun Sik; Kim, Sang-Tae; Hahn, Yong-Nam
PA S. Korea

SO Jpn. Kokai Tokkyo Koho, 29 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 2002201136 | A2 | 20020716 | JP 2001-365400 | 20011129 |
| US 2002183264 | A1 | 20021205 | US 2001-995691 | 20011129 |
| PRAI KR 2000-71497 | A | 20001129 | | |

OS MARPAT 137:88448
GI



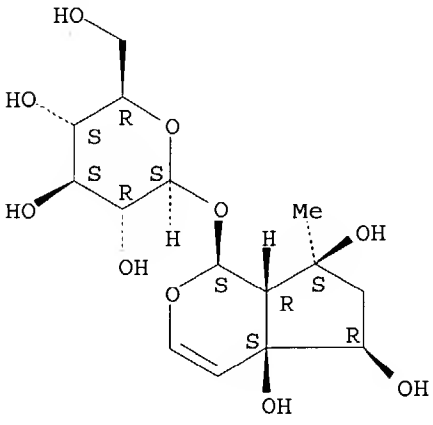
I

AB Harpagide-related compds. I (R1 = H, lower alkyl; R2 = H, cinnamoyl) are used for treatment or prevention of **osteoporosis**, **arthritis**, and/or intervertebral disk diseases. I (R1 = H, lower alkyl; R2 = cinnamoyl) are hydrolyzed to give I (R1 = H, lower alkyl; R2 = H). Harpagide (purified from Harpagophytum procumbens root) (at 75 .mu.g/kg/day p.o.) inhibited zymosan A- and Freund's adjuvant-induced rat paw edema. Formulation examples of injections, tablets, capsules, and liqs. contg. harpagide or harpagoside are given.

IT **6926-08-5P**, Harpagide
RL: PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(harpagide-related compds. for prevention and treatment of **osteoporosis**, **arthritis**, and intervertebral disk hernia)

RN 6926-08-5 CAPLUS
CN .beta.-D-Glucopyranoside, (1S,4aS,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:31340 CAPLUS
DN 134:95502
TI Compositions and methods for treating or preventing **osteoporosis**
IN Prince, Richard Lewis; Min, Xu
PA University of Western Australia, Australia; Guangzhou University of Traditional Chinese Medicine
SO PCT Int. Appl., 93 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI WO 2001001996 | A1 | 20010111 | WO 2000-AU737 | 20000629 |
| WO 2001001996 | C2 | 20020912 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

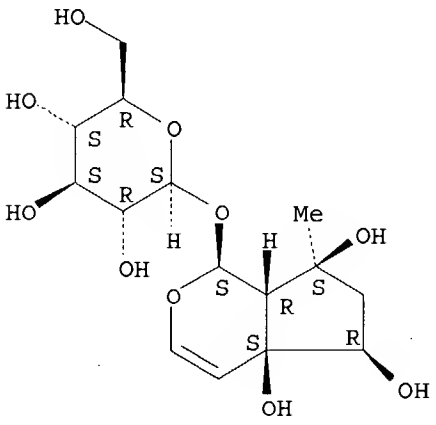
PRAI AU 1999-1273 A 19990629

AB The invention relates to a therapeutic compn. and method for treating **osteoporosis** and other calcium, and/or estrogen related disorders. Examples are given for treating **osteoporosis** with exts. of plants such as Epimedium koreanum, Slavia miltiorrhiza, Asragalus membranaceus, Pueraria thomsonii, and Psoralea coryliofolia.

IT **6926-08-5**, Harpagide
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(herb medicine exts. for treating or preventing **osteoporosis**)

RN 6926-08-5 CAPLUS
CN .beta.-D-Glucopyranoside, (1S,4aS,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.




RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file reg

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|---|---|---|
| FULL ESTIMATED COST | 24.56 | 173.32 |

| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
|---|---|---|
| CA SUBSCRIBER PRICE | -2.60 | -2.60 |

FILE 'REGISTRY' ENTERED AT 10:56:54 ON 22 DEC 2003
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provided by InfoChem.

STRUCTURE FILE UPDATES: 21 DEC 2003 HIGHEST RN 629597-20-2
DICTIONARY FILE UPDATES: 21 DEC 2003 HIGHEST RN 629597-20-2

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

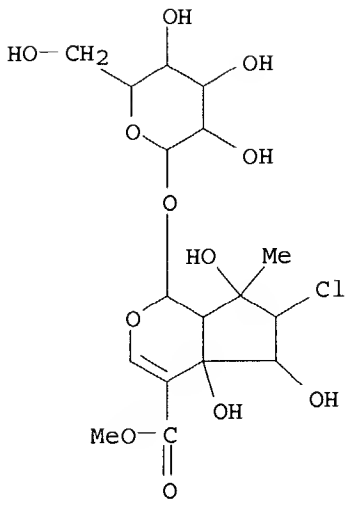
Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

```
=> s 6926-08-5
L5            1 6926-08-5
                (6926-08-5/RN)

=> s l5 and (arthritis or osteoporosis or disc)
            273 ARTHRITIS
              0 OSTEOPOROSIS
            222 DISC
             18 DISCS
            239 DISC
                (DISC OR DISCS)
L6            0 L5 AND (ARTHRITIS OR OSTEOPOROSIS OR DISC)

=> d scan l3

L3   33 ANSWERS   REGISTRY  COPYRIGHT 2003 ACS on STN
IN   Cyclopenta[c]pyran-4-carboxylic acid, 6-chloro-1-(.beta.-D-
     glucopyranosyloxy)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methyl-,
     methyl ester, (1S,4aR,5S,6R,7R,7aS)- (9CI)
MF   C17 H25 Cl O12
```



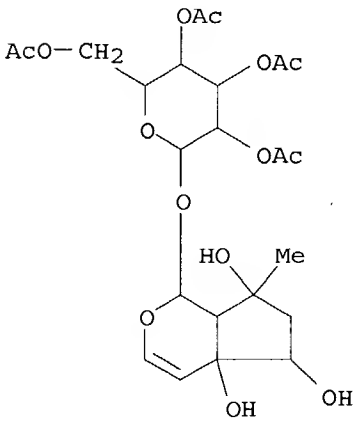
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):2-33
'2-33' IS NOT VALID HERE

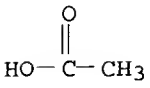
To display more answers, enter the number of answers you would like to see. To end the display, enter "NONE", "N", "0", or "END".
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):5

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, 1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl, 2,3,4,6,?,?-hexaacetate, [1S-(1.alpha.,4a.alpha.,5.alpha.,7.alpha.,7a.alpha.)]- (9CI)
MF C27 H36 O16
CI IDS

CM 1

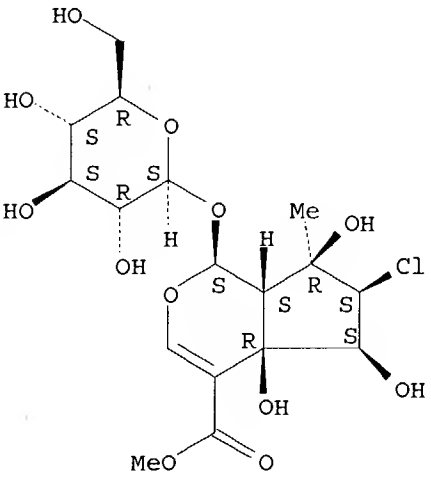


CM 2



L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Cyclopenta[c]pyran-4-carboxylic acid, 6-chloro-1-(.beta.-D-glucopyranosyloxy)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methyl-, methyl ester, (1S,4aR,5S,6S,7R,7aS)- (9CI)
MF C17 H25 Cl O12

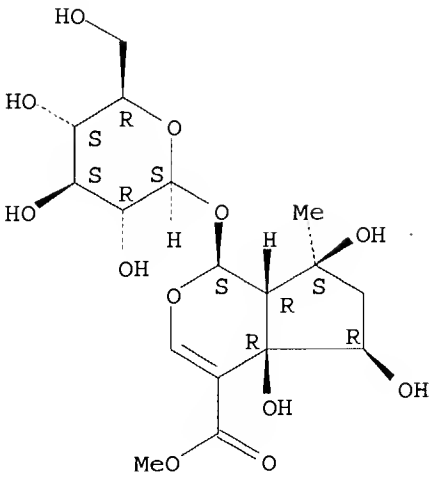
Absolute stereochemistry. Rotation (-).



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Cyclopenta[c]pyran-4-carboxylic acid, 1-(.beta.-D-glucopyranosyloxy)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methyl-, methyl ester, (1S,4aR,5R,7S,7aR)- (9CI)
MF C17 H26 O12

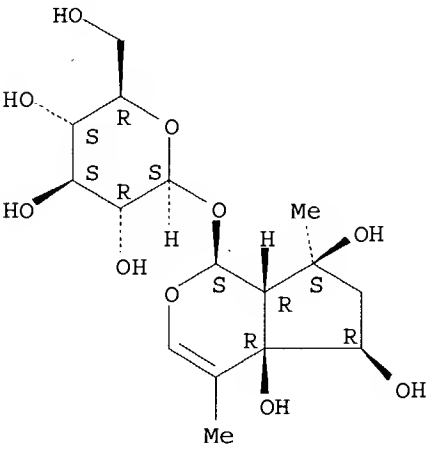
Absolute stereochemistry. Rotation (-).




**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, (1S,4aR,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-4,7-dimethylcyclopenta[c]pyran-1-yl (9CI)
MF C16 H26 O10

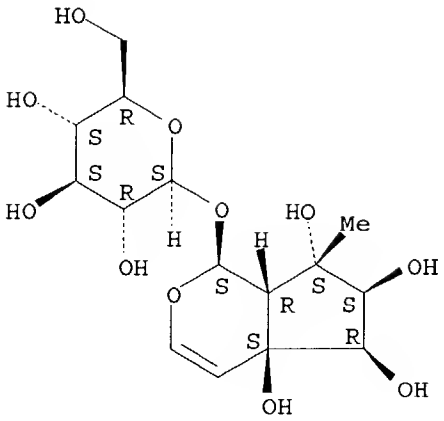
Absolute stereochemistry.




**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, (1S,4aS,5R,6S,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,6,7-tetrahydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI)
MF C15 H24 O11

Absolute stereochemistry. Rotation (-).

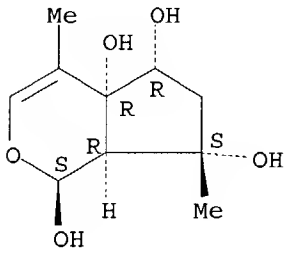


**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):5

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Cyclopenta[c]pyran-1,4a,5,7(1H)-tetrol, 5,6,7,7a-tetrahydro-4,7-dimethyl-, [1S-(1.alpha.,4a.beta.,5.beta.,7.beta.,7a.beta.)]- (9CI)
MF C10 H16 O5

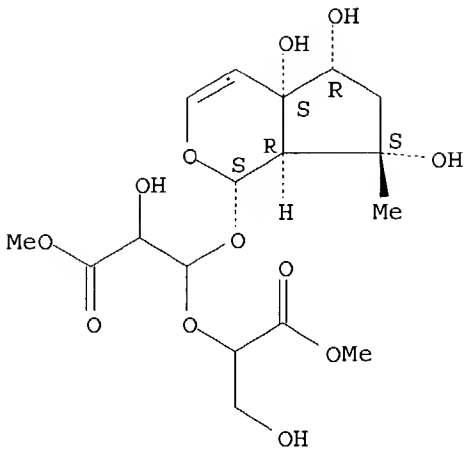
Absolute stereochemistry.



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

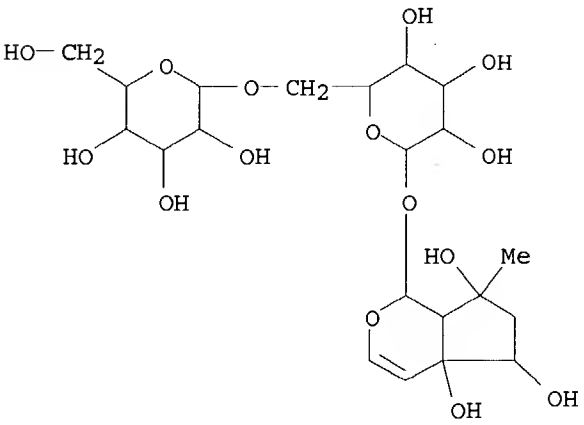
L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Propanoic acid, 3-[[(1S,4aS,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl]oxy]-2-hydroxy-3-[1-(hydroxymethyl)-2-methoxy-2-oxoethoxy]-, methyl ester (9CI)
MF C17 H26 O12

Absolute stereochemistry.
Currently available stereo shown.



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

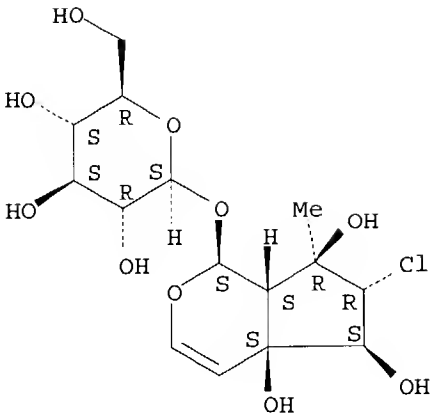
L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, 1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl 6-O-.alpha.-D-glucopyranosyl-, [1S-(1.alpha.,4a.alpha.,5.alpha.,7.alpha.,7a.alpha.)]- (9CI)
MF C21 H34 O15



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, (1S,4aS,5S,6R,7R,7aS)-6-chloro-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI)
MF C15 H23 Cl O10

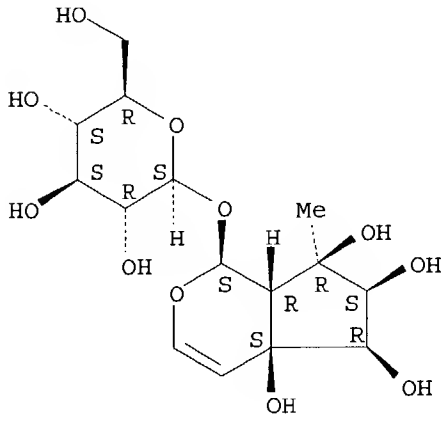
Absolute stereochemistry. Rotation (-).



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, (1S,4aS,5R,6S,7R,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,6,7-tetrahydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI)
MF C15 H24 O11

Absolute stereochemistry. Rotation (-).

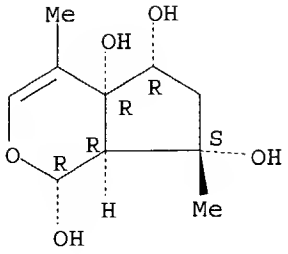


**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):10

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Cyclopenta[c]pyran-1,4a,5,7(1H)-tetrol, 5,6,7,7a-tetrahydro-4,7-dimethyl-, [1R-(1.alpha.,4a.alpha.,5.alpha.,7.alpha.,7a.alpha.)]- (9CI)
MF C10 H16 O5

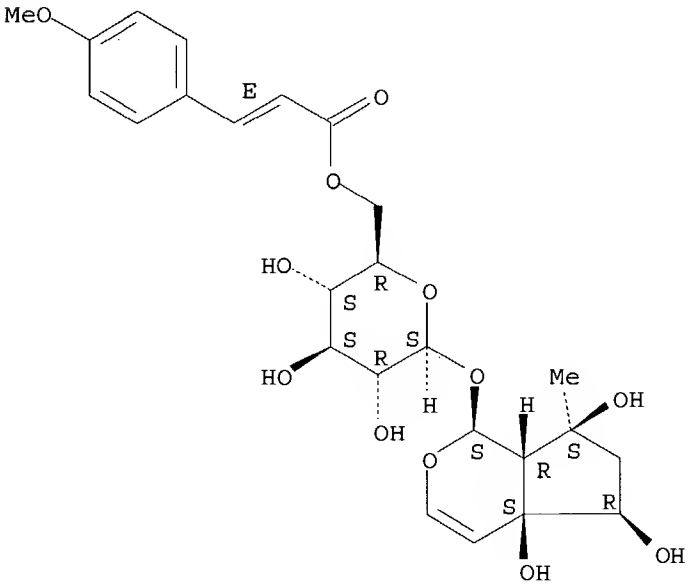
Absolute stereochemistry.




**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

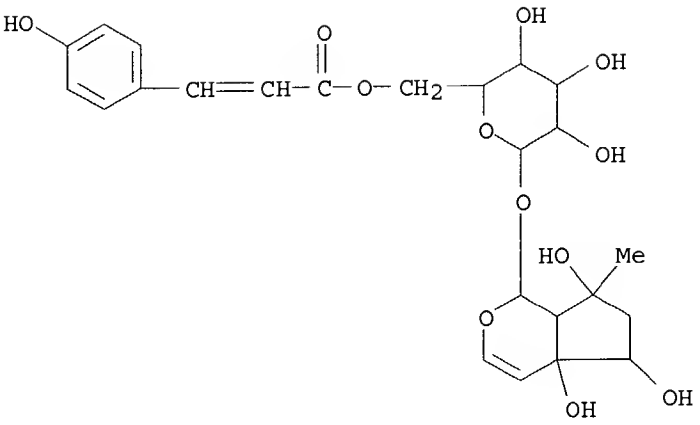
L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, (1S,4aS,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl, 6-[(2E)-3-(4-methoxyphenyl)-2-propenoate] (9CI)
MF C25 H32 O12

Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.




**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

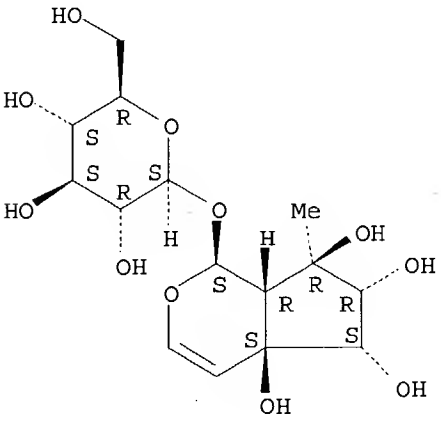
L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, 1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl, 6-[3-(4-hydroxyphenyl)-2-propenoate], [1S-[1.alpha.(E),4a.alpha.,5.alpha.,7.alpha.,7a.alpha.]]- (9CI)
MF C24 H30 O12



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, 1,4a,5,6,7,7a-hexahydro-4a,5,6,7-tetrahydroxy-7-methylcyclopenta[c]pyran-1-yl, [1S-(1.alpha.,4a.alpha.,5.beta.,6.beta.,7.alpha.,7a.alpha.)]- (9CI)
MF C15 H24 O11
CI COM

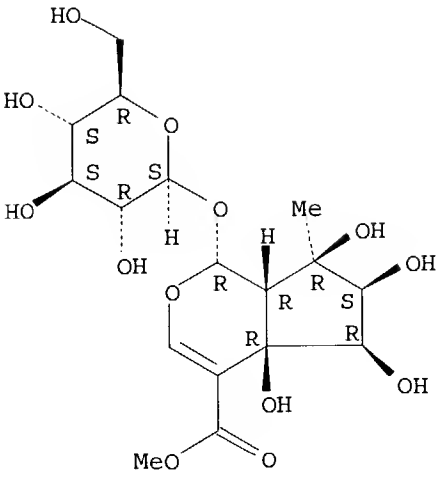
Absolute stereochemistry.



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Cyclopenta[c]pyran-4-carboxylic acid, 1-(.beta.-D-glucopyranosyloxy)-1,4a,5,6,7,7a-hexahydro-4a,5,6,7-tetrahydroxy-7-methyl-, methyl ester, (1R,4aR,5R,6S,7R,7aR)- (9CI)
MF C17 H26 O13

Absolute stereochemistry.

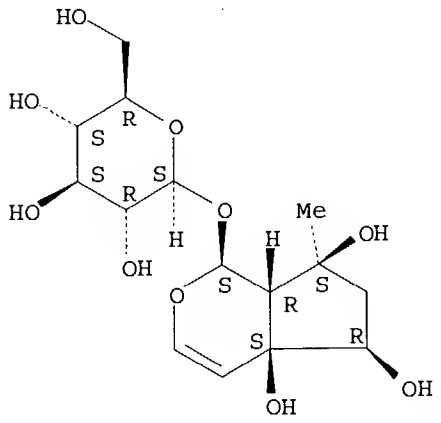


**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

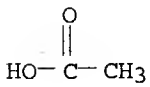
L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, 1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl, monoacetate, [1S-(1.alpha.,4a.alpha.,5.alpha.,7.alpha.,7a.alpha.)]- (9CI)
MF C17 H26 O11
CI IDS

CM 1

Absolute stereochemistry.



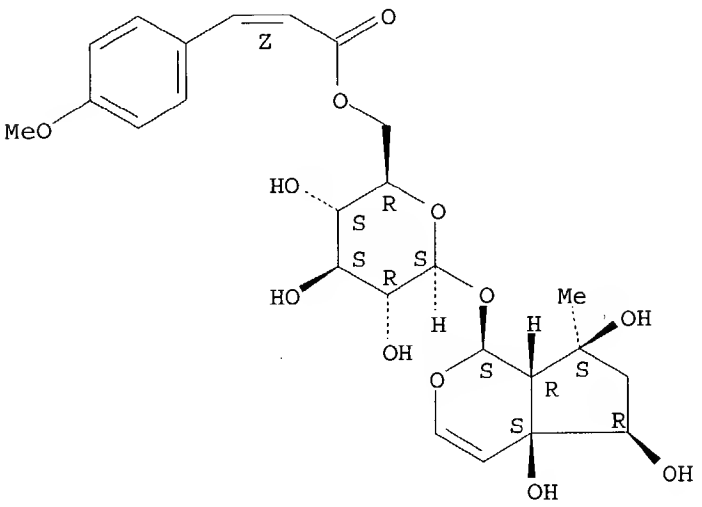
CM 2



L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, (1S,4aS,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl, 6-[(2Z)-3-(4-

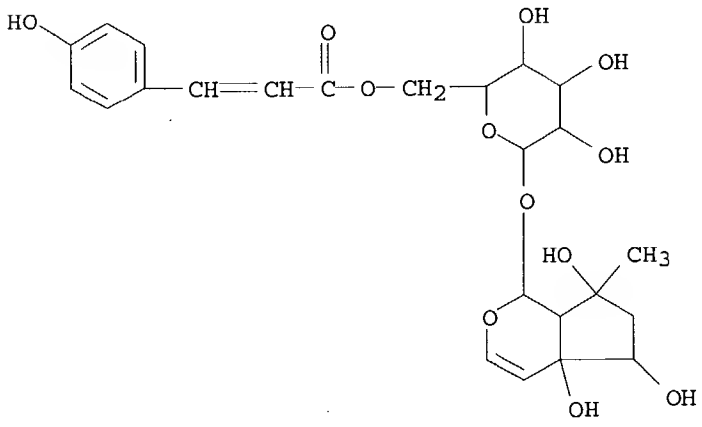
methoxyphenyl)-2-propenoate] (9CI)
MF C25 H32 O12

Absolute stereochemistry. Rotation (-).
Double bond geometry as shown.



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

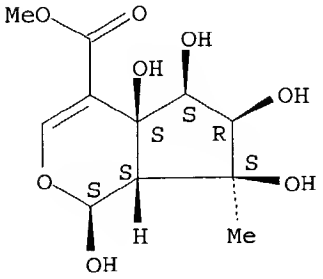
L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, 1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl, 6-[3-(4-hydroxyphenyl)-2-propenoate], [1S-[1.alpha.(Z),4a.alpha.,5.alpha.,7.alpha.,7a.alpha.]]- (9CI)
MF C24 H30 O12



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Cyclopenta[c]pyran-4-carboxylic acid, 1,4a,5,6,7,7a-hexahydro-1,4a,5,6,7-pentahydroxy-7-methyl-, methyl ester, [1S-(1.alpha.,4a.alpha.,5.alpha.,6.alpha.,7.alpha.,7a.alpha.)]- (9CI)
MF C11 H16 O8

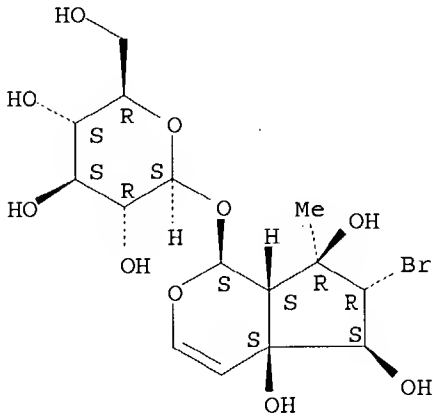
Absolute stereochemistry.



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, (1S,4aS,5S,6R,7R,7aS)-6-bromo-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI)
MF C15 H23 Br O10

Absolute stereochemistry.

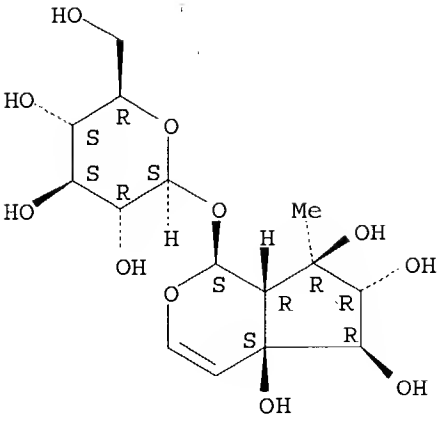


**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):12

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, (1S,4aS,5R,6R,7R,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,6,7-tetrahydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI)
MF C15 H24 O11

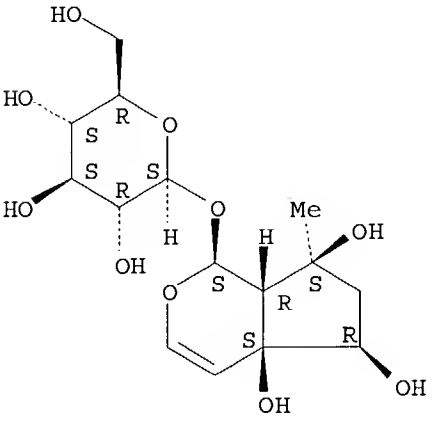
Absolute stereochemistry.



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, (1S,4aS,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI)
MF C15 H24 O10
CI COM

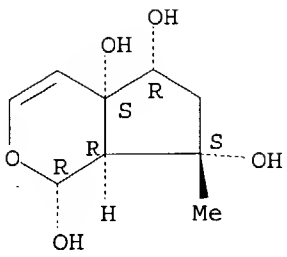
Absolute stereochemistry.



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Cyclopenta[c]pyran-1,4a,5,7(1H)-tetrol, 5,6,7,7a-tetrahydro-7-methyl-, (1R,4aS,5R,7S,7aR)- (9CI)
MF C9 H14 O5

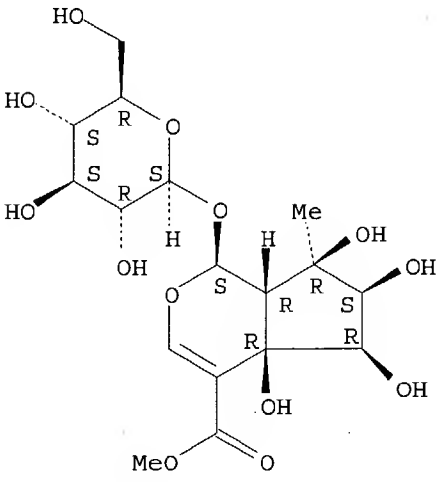
Absolute stereochemistry.




**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Cyclopenta[c]pyran-4-carboxylic acid, 1-(.beta.-D-glucopyranosyloxy)-1,4a,5,6,7,7a-hexahydro-4a,5,6,7-tetrahydroxy-7-methyl-, methyl ester, (1S,4aR,5R,6S,7R,7aR)- (9CI)
MF C17 H26 O13

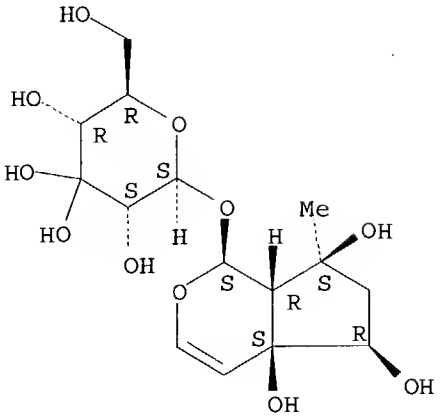
Absolute stereochemistry. Rotation (-).




**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-ribo-Hexopyranosid-3-ulose, (1S,4aS,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl, 3-hydrate (9CI)
MF C15 H24 O11

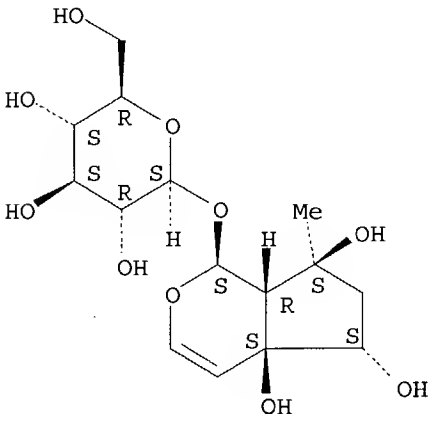
Absolute stereochemistry.



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, (1S,4aS,5S,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI)
MF C15 H24 O10

Absolute stereochemistry.

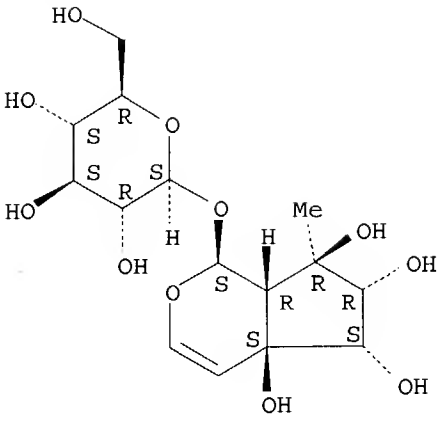


**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

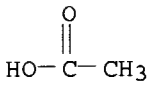
L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, 1,4a,5,6,7,7a-hexahydro-4a,5,6,7-tetrahydroxy-7-methylcyclopenta[c]pyran-1-yl, hexaacetate, [1S-(1.alpha.,4a.alpha.,5.beta.,6.beta.,7.alpha.,7a.alpha.)]- (9CI)
MF C27 H36 O17
CI IDS

CM 1

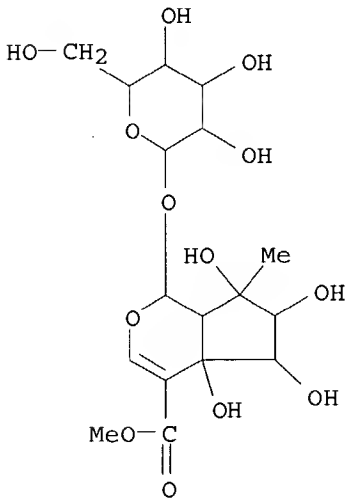
Absolute stereochemistry.



CM 2



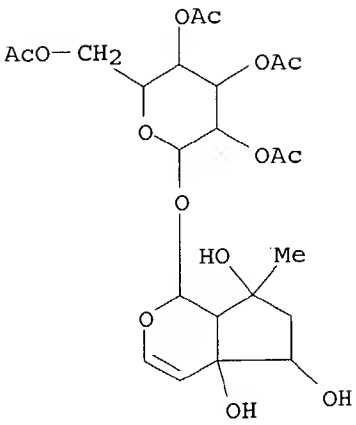
L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Cyclopenta[c]pyran-4-carboxylic acid, 1-(.beta.-D-glucopyranosyloxy)-1,4a,5,6,7,7a-hexahydro-4a,5,6,7-tetrahydroxy-7-methyl-, methyl ester, (1S,4aR,5R,6R,7R,7aR)- (9CI)
MF C17 H26 O13



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, 1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl, 2,3,4,6-tetraacetate, [1S-(1.alpha.,4a.alpha.,5.alpha.,7.alpha.,7a.alpha.)]- (9CI)

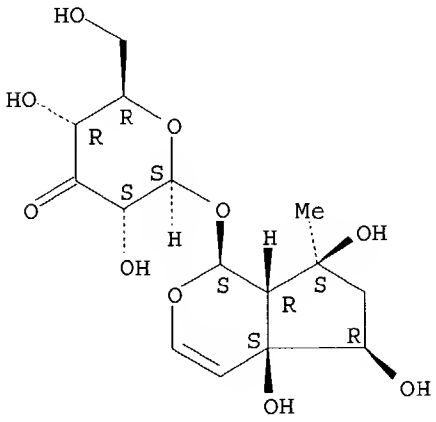
MF C23 H32 O14
CI COM



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

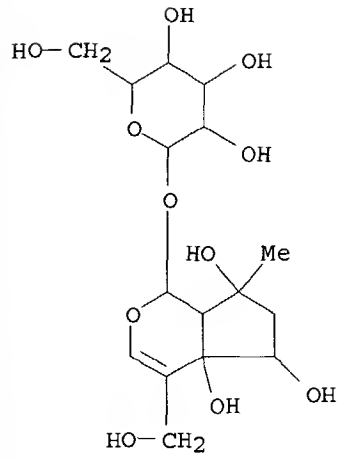
L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-ribo-Hexopyranosid-3-ulose, (1S,4aS,5R,7S,7aR)-1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-7-methylcyclopenta[c]pyran-1-yl (9CI)
MF C15 H22 O10

Absolute stereochemistry.



**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, 1,4a,5,6,7,7a-hexahydro-4a,5,7-trihydroxy-4-(hydroxymethyl)-7-methylcyclopenta[c]pyran-1-yl (9CI)
MF C16 H26 O11

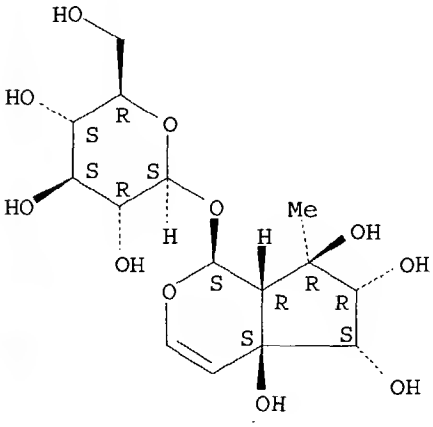


**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

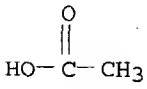
L3 33 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN .beta.-D-Glucopyranoside, 1,4a,5,6,7,7a-hexahydro-4a,5,6,7-tetrahydroxy-7-methylcyclopenta[c]pyran-1-yl, heptaacetate, [1S-(1.alpha.,4a.alpha.,5.beta.,6.beta.,7.alpha.,7a.alpha.)]- (9CI)
MF C29 H38 O18
CI IDS

CM 1

Absolute stereochemistry.



CM 2



ALL ANSWERS HAVE BEEN SCANNED

```
=> s l3 and composition
             7 COMPOSITION
             2 COMPOSITIONS
             9 COMPOSITION
                 (COMPOSITION OR COMPOSITIONS)
L7           0 L3 AND COMPOSITION

=> dis hist

     (FILE 'HOME' ENTERED AT 10:53:49 ON 22 DEC 2003)

     FILE 'REGISTRY' ENTERED AT 10:53:59 ON 22 DEC 2003
L1               STRUCTURE UPLOADED
L2            2 S L1 SSS SAM
L3           33 S L1 SSS FULL

     FILE 'CAPLUS' ENTERED AT 10:55:20 ON 22 DEC 2003
L4            4 S L3 AND (ARTHRITIS OR OSTEOPOROSIS OR DISC)

     FILE 'REGISTRY' ENTERED AT 10:56:54 ON 22 DEC 2003
L5            1 S 6926-08-5
L6            0 S L5 AND (ARTHRITIS OR OSTEOPOROSIS OR DISC)
L7            0 S L3 AND COMPOSITION

=> file polymers
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                 ENTRY    SESSION
FULL ESTIMATED COST                              21.28     194.60

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)    SINCE FILE      TOTAL
                                                 ENTRY    SESSION
CA SUBSCRIBER PRICE                               0.00      -2.60

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FILE 'USPAT2' ENTERED AT 11:03:18 ON 22 DEC 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'WP1DS' ACCESS NOT AUTHORIZED

FILE 'WP1NDEX' ENTERED AT 11:03:18 ON 22 DEC 2003
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FILE 'WTEXTILES' ENTERED AT 11:03:18 ON 22 DEC 2003
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=> s harpagide
L8 249 HARPAGIDE

=> s l8 and (arthritis or osteoporosis or disc)
L9 11 L8 AND (ARTHRITIS OR OSTEOPOROSIS OR DISC)

=> dis l9 1-11 bib abs

L9 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:799804 CAPLUS
DN 138:103853
TI In vitro propagation and iridoid analysis of the medicinal species Harpagophytum procumbens and H. zeyheri
AU Levieille, G.; Wilson, G.
CS Department of Botany, University College Dublin, Dublin, Ire.
SO Plant Cell Reports (2002), 21(3), 220-225
CODEN: PCRPD8; ISSN: 0721-7714
PB Springer-Verlag
DT Journal
LA English
AB Exts. of the tubers of Harpagophytum procumbens DC (Devil's Claw) are used widely for the relief of **arthritis**, lumbago and muscular pain. The anti-inflammatory activity has been attributed to their iridoid components. A two-step protocol was established for the in vitro propagation of plants of Harpagophytum sp. by the regeneration of new plantlets from nodal cuttings and their acclimatization to ex vitro conditions. Single node cuttings were submitted to a root induction

treatment with .beta.-indoleacetic acid (5 days at 2 mg l-1) followed by a transfer to a phytohormone-free medium to promote root elongation and support plantlet development. The new plantlets were weaned under autotrophic conditions and subsequently acclimatized in a glasshouse where they grew into fertile flowering plants that produced the characteristic Devil's Claw fruits as well as tuberised roots. Anal. of the tuber tissue of the micropropagated plants showed the presence of the iridoids harpagoside and **harpagide** at concns. comparable with those found in the wild plant material (1% dry wt.). The leaves were also found to contain these iridoids, and therefore could potentially provide an alternative and more sustainable source of therapeutically active compds. The application of in vitro methods for the propagation of Devil's Claw would contribute to the conservation of this species.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:591953 CAPLUS
DN 137:159305
TI 2-O-(9Z,12Z-octadecadienoyl)-3-O-[.alpha.-D-galactopyranosyl-(1''-6')-O-.beta.-D-galactopyranosyl]glycerol and pharmaceutical formulations containing it
IN Shin, Jun Shik; Kim, Sang Tae; Hahn, Yong Nam
PA Japan
SO Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

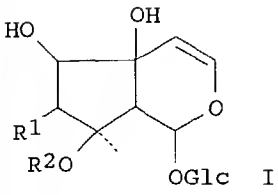
| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 2002220400 | A2 | 20020809 | JP 2001-365399 | 20011129 |
| | US 6531582 | B1 | 20030311 | US 2001-995617 | 20011129 |
| PRAI | KR 2000-71438 | A | 20001129 | | |

AB Pharmaceutical formulations for treatment of **osteoporosis**, **arthritis**, or intervertebral disk hernia, contain 2-O-(9Z,12Z-octadecadienoyl)-3-O-[.alpha.-D-galactopyranosyl-(1''-6')-O-.beta.-D-galactopyranosyl]glycerol (I) or its esters as active ingredients. I (420 mg) was purified from an EtOH ext. of 1848 g Cibotium barometz root powder. Administration of I at 75 .mu.g/mL p.o. for 2 wk prevented mouse paw edema induced by Zymosan A and Freund's adjuvant. Formulation examples of injections, tablets, capsules, and liqs. contg. I or I acetate are given.

L9 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:533182 CAPLUS
DN 137:88448
TI Use of **harpagide**-related compounds for prevention and treatment of **osteoporosis**, **arthritis**, and intervertebral disk hernia, pharmaceutical compositions, and preparation of the compounds
IN Shin, Jun Sik; Kim, Sang-Tae; Hahn, Yong-Nam
PA S. Korea
SO Jpn. Kokai Tokkyo Koho, 29 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | JP 2002201136 | A2 | 20020716 | JP 2001-365400 | 20011129 |
| | US 2002183264 | A1 | 20021205 | US 2001-995691 | 20011129 |
| PRAI | KR 2000-71497 | A | 20001129 | | |

OS MARPAT 137:88448
GI



I

AB **Harpagide**-related compds. I (R1 = H, lower alkyl; R2 = H, cinnamoyl) are used for treatment or prevention of **osteoporosis**, **arthritis**, and/or intervertebral disk diseases. I (R1 = H, lower alkyl; R2 = cinnamoyl) are hydrolyzed to give I (R1 = H, lower alkyl; R2 = H). **Harpagide** (purified from Harpagophytum procumbens root) (at 75 .mu.g/kg/day p.o.) inhibited zymosan A- and Freund's adjuvant-induced rat paw edema. Formulation examples of injections, tablets, capsules, and liqs. contg. **harpagide** or harpagoside are given.

L9 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:31340 CAPLUS
DN 134:95502
TI Compositions and methods for treating or preventing **osteoporosis**
IN Prince, Richard Lewis; Min, Xu
PA University of Western Australia, Australia; Guangzhou University of Traditional Chinese Medicine
SO PCT Int. Appl., 93 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 2001001996 | A1 | 20010111 | WO 2000-AU737 | 20000629 |
| | WO 2001001996 | C2 | 20020912 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI AU 1999-1273 A 19990629
AB The invention relates to a therapeutic compn. and method for treating **osteoporosis** and other calcium, and/or estrogen related disorders. Examples are given for treating **osteoporosis** with exts. of plants such as Epimedium koreanum, Slavia miltiorrhiza, Asragalus membranaceus, Pueraria thomsonii, and Psoralea coryliofolia.
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 11 IFIPAT COPYRIGHT 2003 IFI on STN
AN 03842228 IFIPAT;IFIUDB;IFICDB
TI 2-O-(9Z,12Z-OCTADECADIENOYL)-3-O-(ALPHA-D-GALACTOPYRANOSYL-(1''-6')-O-ALPHA -D-GALACTOPYRANOSYL)GLYCEROL AND PHARMACEUTICAL COMPOSITION CONTAINING THE SAME
INF Han; Yong Nam, Seoul, KR
Kim; Sang Tae, Seoul, KR
Shin; Joon Shik, Hospital of Jaseng Oriental Medicine, 635, Shinsa-dong, Kangnam-ku, Seoul, KR
IN Han Yong Nam (KR); Kim Sang Tae (KR); Shin Joon Shik (KR)
PAF Shin; Joon Shik, Seoul, KR

PA Unassigned Or Assigned To Individual (68000)
EXNAM Henley, III, Raymond
AG Birch Stewart Kolasch & Birch LLP
PI US 6531582 B1 20030311
AI US 2001-995617 20011129
XPD 29 Nov 2021
PRAI KR 2000-71438 20001129
FI US 6531582 20030311
DT Utility
FS CHEMICAL
GRANTED
MRN 012334 MFN: 0870
CLMN 3
GI 17 Drawing Sheet(s), 27 Figure(s).

FIG. 1 shows (a) the flowchart of a process for recovering the dry weight of the pharmaceutical composition by extraction of the constituent drug with distilled water and an organic solvent, concentration under reduced pressure and lyophilization, and (b) the flowchart of the procedures for extracting the organic fraction according to the process for extracting the effective component.

FIG. 2 shows (a) the causal mechanism of invasion, (b) the invaded portions, and (c) the route for transmitting molecular biological signals of invasive process in joint at which **arthritis** as the typical one of bone diseases is invaded.

FIG. 3 shows the survival and cytomorphological appearance of synovial cells in joint portion at which **arthritis** as the typical chronic and degenerative bone diseases is invaded.

FIG. 4 shows the 70-days inhibitory effect on edema as one of chronic and degenerative osteopathological symptoms of **arthritis** by treating the induced edema with respective fractions obtained as the organic solvent fractions of the pharmaceutical composition in an amount of 75 mu g/ml for 2 weeks via oral route.

FIG. 5 shows the number and distribution pattern of CAM observed for 3 days by treating the fertilized egg with the effective component as the organic solvent extract in the concentration of 10 mu g/ml, incubating the egg in an incubator at 37 degrees C. for 2 days and then carefully injecting 5 x 103 synovial cells on CAM via syringe.

FIG. 6 is H/E tissue staining which shows the rupture extent of cartilaginous tissue after 70 days from the treatment of **arthritis**-induced animal with the water extract of the pharmaceutical composition at the concentration given in FIG. 9.

FIG. 7 is (a) a bar graph showing the inhibition of NO formation when Raw 264.7 cell lines are treated with the organic solvent fraction of a single drug of the pharmaceutical composition at the concentration of 10 mu g/ml for 24 hours an then stimulated with LPS, and (b) a bar graph showing the inhibition of NO formation when the cell lines treated with CBB fraction and LNE fraction as the organic solvent fractions are stimulated with LPS according to the same manner as above (a).

FIG. 8 shows (a) the induction pattern of apoptosis when Raw 264. 7 cell lines are treated with the organic fraction of the effective component at the concentration of about 20 mu g/ml and then stimulated with LPS, and (b) the result of observing whether the synovial cells show the same pattern according to the same method as above (a).

FIG. 9 shows (a) the result of flow cytometry to determine the effect on cell cycle by treating Raw 264.7 cell lines with the organic fraction of the effective component at the concentration of about 20 mu g/ml and then stimulating with LPS and (b) the result of observing whether the synovial cells show the same appearance according to the same method as above (a).

FIG. 10 shows the inhibitory effect on the expression of COX-II enzyme protein as measured by SDS-PAGE electrophoresis when synovial cell lines are treated with the organic fraction of the effective component and then stimulated with LPS.

FIG. 11 shows the inhibitory effect on the synthesis of iNOS and COX-II enzymes as measured by RT-PCR when synovial cell lines are treated with the organic fraction of the effective component and then stimulated with

LPS, and the inhibitory effect of respective fractions on the synthesis of iNOS (b) and COX-II (c) enzymes according to the same method as above (a).

FIG. 12 shows the result obtained by labeling synovial cell lines with a secondary antibody FITC, allowing to stand the cells for about one hour while shading the light with a foil and then observing the cells under a fluorescence microscope, in order to examine whether the compound identified as the effective component in the pharmaceutical composition of the present invention can induce the inhibitory effect on COX-II expression in synovial cells in joint portion.

FIG. 13 is X-ray photograph to show the 70-days inhibitory effect on edema as one of chronic and degenerative osteopathological symptoms of **arthritis** by treating the induced edema with respective fractions obtained as the organic solvent fractions of the pharmaceutical composition in an amount of 75 mu g/ml for 2 weeks via oral route.

FIG. 14 is the result of computerized tomography (CT) to show the clinical improvement in an outpatient suffering from ruptured **disc** with the pharmaceutical composition of the present invention.

FIG. 15 is the result of magnetic resonance imaging (MRI) to show the clinical improvement in an outpatient suffering from ruptured **disc** with the pharmaceutical composition of the present invention.

FIG. 16 shows the presence of nogo-A with respect to the mechanism to induce vertebral neuroparalysis in an outpatient suffering from ruptured **disc**.

FIG. 17 shows a channel for blocking neurotransmission by raising the injury in oligodendrocyte present around the axon as the nervous portion concerned with a paralysis of neurotransmission.

FIG. 18 shows (a) a channel for blocking neurotransmission to brain cells as in case that the injury is raised in oligodendrocyte present around the axon as the nervous portion concerned with a paralysis of neurotransmission, (b) the recovery of neurotransmission by treating cells with NGF or CBB13/LNE-2 to regenerate neutrite, which recovers the neurotransmission.

AB The present invention relates to the novel compound 2-O-(9z,12zoctadecadienoyl)-3-O-( alpha -D-galactopyranosyl-(1''-6')-Oalpha -D-galactopyranosyl)glycerol (Generic name: shinbarometin) having the chemical structure represented by the following formula:

D R A W I N G

or its acetate having an excellent effect on **arthritis**, **osteoporosis** and ruptured **disc**, and to a pharmaceutical composition containing said compound as an effective component, in combination with a pharmaceutically acceptable auxiliary, diluent, isotonic agent, preservative, lubricant and solubilizing aid, which is formulated in the form of a pharmaceutically acceptable preparation and has a potent effect for **osteoporosis**, **arthritis** and ruptured **disc**.

CLMN 3

GI 17 Drawing Sheet(s), 27 Figure(s).

FIG. 1 shows (a) the flowchart of a process for recovering the dry weight of the pharmaceutical composition by extraction of the constituent drug with distilled water and an organic solvent, concentration under reduced pressure and lyophilization, and (b) the flowchart of the procedures for extracting the organic fraction according to the process for extracting the effective component.

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degenerative osteopathological symptoms of **arthritis** by treating the induced edema with respective fractions obtained as the organic solvent fractions of the pharmaceutical composition in an amount of 75 mu g/ml for 2 weeks via oral route.

FIG. 5 shows the number and distribution pattern of CAM observed for 3 days by treating the fertilized egg with the effective component as the organic solvent extract in the concentration of 10 mu g/ml, incubating the egg in an incubator at 37 degrees C. for 2 days and then carefully injecting 5 x 103 synovial cells on CAM via syringe.

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FIG. 8 shows (a) the induction pattern of apoptosis when Raw 264. 7 cell lines are treated with the organic fraction of the effective component at the concentration of about 20 mu g/ml and then stimulated with LPS, and (b) the result of observing whether the synovial cells show the same pattern according to the same method as above (a).

FIG. 9 shows (a) the result of flow cytometry to determine the effect on cell cycle by treating Raw 264.7 cell lines with the organic fraction of the effective component at the concentration of about 20 mu g/ml and then stimulating with LPS and (b) the result of observing whether the synovial cells show the same appearance according to the same method as above (a).

FIG. 10 shows the inhibitory effect on the expression of COX-II enzyme protein as measured by SDS-PAGE electrophoresis when synovial cell lines are treated with the organic fraction of the effective component and then stimulated with LPS.

FIG. 11 shows the inhibitory effect on the synthesis of iNOS and COX-II enzymes as measured by RT-PCR when synovial cell lines are treated with the organic fraction of the effective component and then stimulated with LPS, and the inhibitory effect of respective fractions on the synthesis of iNOS (b) and COX-II (c) enzymes according to the same method as above (a).

FIG. 12 shows the result obtained by labeling synovial cell lines with a secondary antibody FITC, allowing to stand the cells for about one hour while shading the light with a foil and then observing the cells under a fluorescence microscope, in order to examine whether the compound identified as the effective component in the pharmaceutical composition of the present invention can induce the inhibitory effect on COX-II expression in synovial cells in joint portion.

FIG. 13 is X-ray photograph to show the 70-days inhibitory effect on edema as one of chronic and degenerative osteopathological symptoms of **arthritis** by treating the induced edema with respective fractions obtained as the organic solvent fractions of the pharmaceutical composition in an amount of 75 mu g/ml for 2 weeks via oral route.

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FIG. 15 is the result of magnetic resonance imaging (MRI) to show the clinical improvement in an outpatient suffering from ruptured **disc** with the pharmaceutical composition of the present invention.

FIG. 16 shows the presence of nogo-A with respect to the mechanism to induce vertebral neuroparalysis in an outpatient suffering from ruptured **disc**.

FIG. 17 shows a channel for blocking neurotransmission by raising the injury in oligodendrocyte present around the axon as the nervous portion concerned with a paralysis of neurotransmission.

FIG. 18 shows (a) a channel for blocking neurotransmission to brain cells as in case that the injury is raised in oligodendrocyte present around the axon as the nervous portion concerned with a paralysis of neurotransmission, (b) the recovery of neurotransmission by treating cells with NGF or CBB13/LNE-2 to regenerate neutrite, which recovers the neurotransmission.

L9 ANSWER 6 OF 11 PASCAL COPYRIGHT 2003 INIST-CNRS. ALL RIGHTS RESERVED. on STN
AN 2002-0594962 PASCAL
CP Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.
TIEN In vitro propagation and iridoid analysis of the medicinal species Harpagophytum procumbens and H. zeyheri
AU LEVIEILLE G.; WILSON G.
CS Department of Botany, University College Dublin, Belfield, Dublin, Ireland
SO Plant cell reports : (Print), (2002), 21(3), 220-225, 15 refs. ISSN: 0721-7714 CODEN: PCRPD8
DT Journal
BL Analytic
CY Germany, Federal Republic of
LA English
AV INIST-18737, 354000106592000060
CP Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.
AB Extracts of the tubers of Harpagophytum proc-umbens DC (Devil's Claw) are used widely for the relief of **arthritis**, lumbago and muscular pain. The anti-inflammatory activity has been attributed to their iridoid components. A two-step protocol was established for the in vitro propagation of plants of Harpagophytum sp. by the regeneration of new plantlets from nodal cuttings and their acclimatisation to ex vitro conditions. Single node cuttings were submitted to a root induction treatment with .beta.-indoleacetic acid (5 days at 2 mg l.sup.-.sup.1) followed by a transfer to a phytohormone-free medium to promote root elongation and support plantlet development. The new plantlets were weaned under autotrophic conditions and subsequently acclimatised in a glasshouse where they grew into fertile flowering plants that produced the characteristic Devil's Claw fruits as well as tuberised roots. Analysis of the tuber tissue of the micropropagated plants showed the presence of the iridoids harpagoside and **harpagide** at concentrations comparable with those found in the wild plant material (1% dry weight). The leaves were also found to contain these iridoids, and therefore could potentially provide an alternative and more sustainable source of therapeutically active compounds. The application of in vitro methods for the propagation of Devil's Claw would contribute to the conservation of this species.

L9 ANSWER 7 OF 11 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AN 2002:937703 SCISEARCH
GA The Genuine Article (R) Number: 614RL
TI In vitro propagation and iridoid analysis of the medicinal species Harpagophytum procumbens and H-zeyheri
AU Levieille G (Reprint); Wilson G
CS Univ Coll Dublin, Dept Bot, Dublin 4, Ireland (Reprint)
CYA Ireland
SO PLANT CELL REPORTS, (OCT 2002) Vol. 21, No. 3, pp. 220-225. Publisher: SPRINGER-VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010 USA. ISSN: 0721-7714.
DT Article; Journal
LA English
REC Reference Count: 15
*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS*
AB Extracts of the tubers of Harpagophytum procumberzs DC (Devil's Claw) are used widely for the relief of **arthritis**, lumbago and muscular pain. The anti-inflammatory activity has been attributed to their iridoid components. A two-step protocol was established for the in vitro

propagation of plants of Harpagophytum sp. by the regeneration of new plantlets from nodal cuttings and their acclimatisation to ex vitro conditions. Single node cuttings were submitted to a root induction treatment with beta-indoleacetic acid (5 days at 2 mg l(-1)) followed by a transfer to a phytohormone-free medium to promote root elongation and support plantlet development. The new plantlets were weaned under autotrophic conditions and subsequently acclimatised in a glasshouse where they grew into fertile flowering plants that produced the characteristic Devil's Claw fruits as well as tuberised roots. Analysis of the tuber tissue of the micropropagated plants showed the presence of the iridoids harpagoside and **harpagide** at concentrations comparable with those found in the wild plant material (1% dry weight). The leaves were also found to contain these iridoids, and therefore could potentially provide an alternative and more sustainable source of therapeutically active compounds. The application of in vitro methods for the propagation of Devil's Claw would contribute to the conservation of this species.

L9 ANSWER 8 OF 11 USPATFULL on STN
AN 2003:67836 USPATFULL
TI 2-O-(9z,12z-octadecadienoyl)-3-O-[.alpha.-D-galactopyranosyl-(1"-6')-O-.alpha.-D-galactopyranosyl]glycerol and pharmaceutical composition containing the same
IN Shin, Joon Shik, Hospital of Jaseng Oriental Medicine, 635, Shinsa-dong, Kangnam-ku, Seoul, KOREA, REPUBLIC OF
Kim, Sang Tae, Seoul, KOREA, REPUBLIC OF
Han, Yong Nam, Seoul, KOREA, REPUBLIC OF
PA Shin, Joon Shik, Seoul, KOREA, REPUBLIC OF (non-U.S. individual)
PI US 6531582 B1 20030311
AI US 2001-995617 20011129 (9)
PRAI KR 2000-71438 20001129
DT Utility
FS GRANTED
EXNAM Primary Examiner: Henley, III, Raymond
LREP Birch Stewart Kolasch & Birch LLP
CLMN Number of Claims: 3
ECL Exemplary Claim: 1
DRWN 27 Drawing Figure(s); 17 Drawing Page(s)
LN.CNT 971
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to the novel compound 2-O-(9z,12z-octadecadienoyl)-3-O-[.alpha.-D-galactopyranosyl-(1"-6')-O-.alpha.-D-galactopyranosyl]glycerol (Generic name: shinbarometin) having the chemical structure represented by the following formula: ##STR1##

or its acetate having an excellent effect on **arthritis**, **osteoporosis** and ruptured **disc**, and to a pharmaceutical composition containing said compound as an effective component, in combination with a pharmaceutically acceptable auxiliary, diluent, isotonic agent, preservative, lubricant and solubilizing aid, which is formulated in the form of a pharmaceutically acceptable preparation and has a potent effect for **osteoporosis**, **arthritis** and ruptured **disc**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 9 OF 11 USPATFULL on STN
AN 2002:323098 USPATFULL
TI Use of harpagid-related compounds for prevention and treatment of **osteoporosis**, **arthritis** and ruptured **disc** and pharmaceutical composition containing the same
IN Shin, Joon Shik, Seoul, KOREA, REPUBLIC OF
Kim, Sang Tae, Seoul, KOREA, REPUBLIC OF
Han, Yong Nam, Seoul, KOREA, REPUBLIC OF
PI US 2002183264 A1 20021205
AI US 2001-995691 A1 20011129 (9)

PRAI KR 2000-71497 20001129
DT Utility
FS APPLICATION
LREP BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747
CLMN Number of Claims: 4
ECL Exemplary Claim: 1
DRWN 17 Drawing Page(s)
LN.CNT 1078
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB In the present invention, it is discovered that a compound of formula (I) has a potent effect for treatment of **osteoporosis**, **arthritis** and ruptured **disc**: ##STR1##

in which R.sub.1 represents hydrogen atom or alkyl group and R.sub.2 represents hydrogen atom r cinnamoyl group. Therefore, the compound of formula (I) can be used for prevention and treatment of **osteoporosis**, **arthritis** and ruptured **disc**.
Thus, the present invention provides a pharmaceutical preparation containing as an effective component a compound of formula (I) in combination with a pharmaceutically acceptable auxiliary, diluent, isotonic agent, preservative, lubricant and solubilizing aid, which is formulated in the form of a pharmaceutically acceptable preparation and has a potent effect for **osteoporosis**, **arthritis** and ruptured **disc**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 10 OF 11 USPATFULL on STN
AN 2001:141886 USPATFULL
TI Harpagoside-enriched extract from harpagophytum procumbens and processes for producing same
IN Stumpf, Karl-Heinz, Karlsruhe, Germany, Federal Republic of
Jaggy, Hermann, Karlsruhe, Germany, Federal Republic of
Oschmann, Rainer, Landau, Germany, Federal Republic of
Koch, Egon, Karlsruhe, Germany, Federal Republic of
Simmet, Thomas, Bochum, Germany, Federal Republic of
PA Dr. Willmar Schwabe GmbH & Co., Karlsruhe, Germany, Federal Republic of (non-U.S. corporation)
PI US 6280737 B1 20010828
WO 9734565 19970925
AI US 1999-155043 19990222 (9)
WO 1997-DE591 19970321
19990222 PCT 371 date
19990222 PCT 102(e) date
PRAI DE 1996-19611221 19960321
DE 1996-19651290 19961210
DT Utility
FS GRANTED
EXNAM Primary Examiner: Lilling, Herbert J.
LREP McDonnell Boehnen Hulbert & Berghoff
CLMN Number of Claims: 9
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 313
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The disclosure relates to extracts from Harpagophytum procumbens with a high harpagoside content, to processes for producing them, such extracts containing no components capable of stimulating the synthesis of thromboxane B.sub.2 and cysteinylleucotrienes, and to pharmaceutical compositions containing such extracts.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 11 OF 11 WPINDEX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2003-010740 [01] WPINDEX

DNC C2003-002594
TI A new compound, 2-O-(9z,12z-octadecadienyl)-3-O-(alpha-galactopyranosyl-(1'-6')-O-beta-D-galactopyranosyl)glycerol, useful for the treatment of **osteoporosis**, **arthritis**, and extruded **discs**.
DC B02
IN HAN, Y N; KIM, S T; SHIN, J S
PA (SHIN-I) SHIN S; (SHIN-I) SHIN J S
CYC 3
PI KR 2002041837 A 20020605 (200301)* 1p
JP 2002220400 A 20020809 (200305) 30p
US 6531582 B1 20030311 (200321)
ADT KR 2002041837 A KR 2000-71438 20001129; JP 2002220400 A JP 2001-365399 20011129; US 6531582 B1 US 2001-995617 20011129
PRAI KR 2000-71438 20001129
AN 2003-010740 [01] WPINDEX
AB KR2002041837 A UPAB: 20030101
NOVELTY - Provided are novel 2-O-(9z,12z-octadecadienyl)-3-O-( alpha -galactopyranosyl-(1'-6')-O- beta -D-galactopyranosyl)glycerol (I) having excellent effects on **osteoporosis**, **arthritis**, and extruded **disc**.
DETAILED DESCRIPTION - 2-O-(9z,12z-octadecadienyl)-3-O-( alpha -galactopyranosyl-(1'-6')-O- beta -D-galactopyranosyl)glycerol is represented by the following structural formula.
An INDEPENDENT CLAIM is also included for a pharmaceutical preparation containing (I) it or its acetate and one of allendrate, tamoxifen, vitamin B3, parathyroid hormone, sulfasalazine, thioredoxin reductase, alendronate, raloxifene, calcitonin, estradiol, genistein, 1,25-dihydroxyvitamin D3, alendronate, estrogen receptor modulator, biphosphonates and **harpagide**, as active ingredients, and pharmaceutically acceptable excipients, diluents, adjuvants, preservatives, dissolution adjuvants.
Dwg.1/10

=> dis hist

(FILE 'HOME' ENTERED AT 10:53:49 ON 22 DEC 2003)

FILE 'REGISTRY' ENTERED AT 10:53:59 ON 22 DEC 2003
L1 STRUCTURE UPLOADED
L2 2 S L1 SSS SAM
L3 33 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 10:55:20 ON 22 DEC 2003
L4 4 S L3 AND (ARTHRITIS OR OSTEOPOROSIS OR DISC)

FILE 'REGISTRY' ENTERED AT 10:56:54 ON 22 DEC 2003
L5 1 S 6926-08-5
L6 0 S L5 AND (ARTHRITIS OR OSTEOPOROSIS OR DISC)
L7 0 S L3 AND COMPOSITION

FILE 'APOLLIT, BABS, CAPLUS, CBNB, CEN, CIN, DISSABS, EMA, IFIPAT, JICST-EPLUS, PASCAL, PLASNEWS, PROMT, RAPRA, SCISEARCH, TEXTILETECH, USPATFULL, USPAT2, WPINDEX, WTEXTILES' ENTERED AT 11:03:18 ON 22 DEC 2003
L8 249 S HARPAGIDE
L9 11 S L8 AND (ARTHRITIS OR OSTEOPOROSIS OR DISC)

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|---|---|---|
| FULL ESTIMATED COST | 63.54 | 258.14 |

| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
|---|---|---|
| CA SUBSCRIBER PRICE | -2.60 | -5.20 |

STN INTERNATIONAL LOGOFF AT 11:05:22 ON 22 DEC 2003